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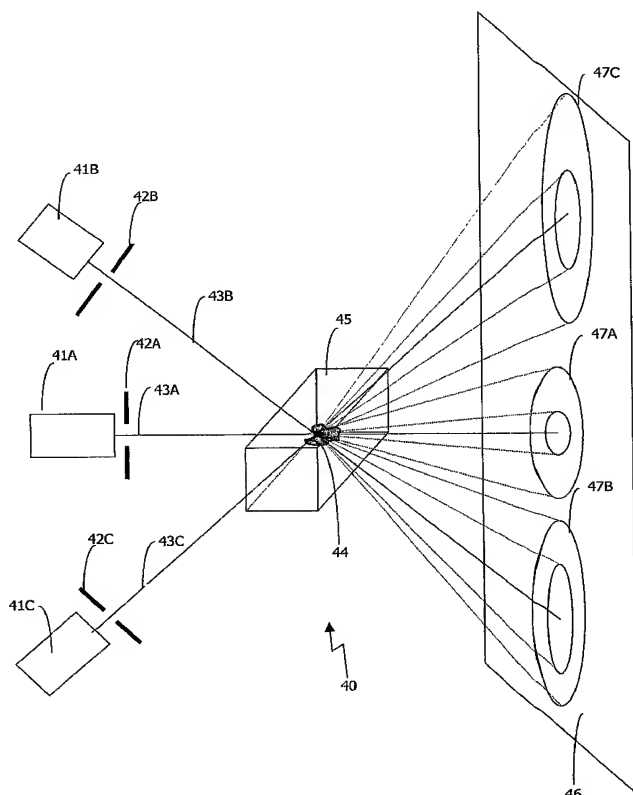
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[Continued on next page]

(54) Title: AN X-RAY DIFFRACTION (XRD) MEANS FOR IDENTIFYING THE CONTENT IN A VOLUME OF INTEREST AND A METHOD THEREOF



(57) Abstract: The present invention discloses an XRD means for identifying the content of a volume of interest (VOI) and a method thereof. A remote XRD means is comprised of a plurality of X-ray sources (41A-41C) targeted towards said VOI (44); a plurality of X-ray detectors (46) adapted to receive diffracted X-rays (47A-47C); a processor adapted to measure said patterns; a database comprising records of pattern parameters; and an alerting means adapted for identifying a material in the VOI as one of a predetermined group. This invention also discloses a method of acquiring XRD images of a material in a VOI (44), comprised of receiving VOI coordinates; irradiating the material in the VOI; acquiring, extracting and converting of XRD patterns (47A-47C) of said VOI to standard powder X-ray diffraction spectrum; matching records in a database for material identification; and alerting when said material is in matches a predetermined record.



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# INTERNATIONAL SEARCH REPORT

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## A. CLASSIFICATION OF SUBJECT MATTER

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US CL : 378/71,85

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 378/71,85

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Continuation Sheet

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,600,303 A (Husseiny et al) 04 Feb 1997 (04.02.1997), Figure 5, column 21, lines 1-51.	1-13, 15-17
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Y		14, 18

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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# INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:  
IEEE Xplore, ScienceDirect  
search terms: cell-x, detector